

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1 and 2, drawn to compounds of the formula (I) or (I-a).

Group II, claim(s) 3-5, drawn to a process for preparing an n-alkyl 3-amino-3-arylpropionate of the formula (IV).

Group III, claims 6-20, drawn to a process for preparing an n-alkyl 3-amino-3-arylpropionate of the formula (III-a).

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The compounds of the formula (I) cannot provide the required special technical feature required since they are not patentably distinguished from those known in the art as exemplified in Webner et al (US 6,331,552-B1 12-2001) in Examples 190-194 (See

column 93, line 44-column 94, line 11). The compounds cannot therefore provide the required special technical feature and the claims therefore lack unity.

1. During a telephone conversation with John W. Bailey on 6 May 2008 a provisional election was made with traverse to prosecute the invention of Group III, claims 6-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-5 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gröger et al (.US 6,869,781-B2 03-2005) in view of Faulconbridge et al (Tetrahedron Letters, 2000, 41, pages 2679-2681).

Instantly claimed is a method for the preparation of an optically active 3-amino-3-arylpropionic acids of formula (III-a) to a selective hydrolysis reaction in the presence of a hydrolase in the presence of an organic solvent and a buffer.

Gröger teaches (Column 10, lines 34-58) a two phase process for the enzymatic preparation of enantiomer enriched β -amino acids which employs Amano Lipase PS (Pseudomonas cepacia.). Methyl tert-butyl ether (MTBE) as organic solvent are added to the aqueous enzyme solution and the resulting two-phase system is adjusted to pH 8.2 by automated addition of sodium hydroxide. Rac-3-amino-3-phenylpropionic acid n-propyl ester is added at a temperature of 20°C and stirred for 15 hours, during to give forms. After a reaction time of 15 hours (S)-3-amino-3-

phenyl-propionic acid having 99.6% ee is obtained. The instantly claimed modification of reaction temperature to between 30-50°C is obvious in view of physiological temperatures and the expected increase in reaction rate.

The difference between the instantly claimed process and that taught by Gröger is that Gröger uses an aqueous solution of sodium hydroxide added by an automated system to control pH while the use of a buffer is instantly claimed.

Faulconbridge, however, teaches (Page 2680, reference 7) the use of a 50 mM KH₂PO₄ buffered solution of Amano PS in his method for the preparation of an optically active 3-amino-3-arylpropionic acids of formula (III-a).

Thus one of ordinary skill in the art would have been motivated to employ the buffer of Faulconbridge to replace the automated addition of sodium hydroxide in the process of Gröger in order to both reduce the possibility of error in the control of pH as well as reduce the expense of the process by elimination the need for a apparatus for the automated addition of base. Because of the essential similarity of the two processes there would have been a reasonable expectation for success.

Thus the instantly claimed process would have been obvious to one of ordinary skill in the art.

Claim Objections

4. Claim 6 objected to because of the following informalities: The word "selectively" in line 16 should be deleted and replaced with the phrase "a selective". Appropriate correction is required.
5. Claim 7 is objected to because of the following informalities: The word "a" should be inserted between the words "is" and "protease" in line 1. Appropriate correction is required.

Conclusion

6. Claims 1-20 are pending. Claims 6-20 are rejected. Claims 1-5 are withdrawn from further consideration as being drawn to a non-elected invention

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Zucker whose telephone number is 571-272-0650. The examiner can normally be reached on Monday-Friday 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Evonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paul A. Zucker/
Primary Examiner, Art Unit 1621